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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------|
| 10/709,202 | 04/21/2004 | Hsien-Chin Chiang | WISP0048USA | 3201 |
| 27765 | 7590 | 08/05/2005 | | |
| NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC) P.O. BOX 506 MERRIFIELD, VA 22116 | | | EXAMINER BROUSSARD, COREY M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2835 | |

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/709,202 | | CHIANG ET AL. | |
| | Examiner | | Art Unit | |
| | Corey M. Broussard | | 2835 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitlas et al in view of Marquis et al. (PN 6,113,485). With respect to claim 1, Kitlas teaches a cooling module of a computer system comprising: a fan module (12) with an air inlet and an air outlet, capable of drawing air into the air inlet and exhausting air from the air outlet (see Fig. 10, air flows 104, 106); a heat sink module (14) with an air inlet (15), an air outlet (17), and a heat conduction part (col 3, lines 8-10 disclose cooling fins within 16); the heat conduction part being between the air inlet and the air outlet, the air outlet connecting to the air inlet of the fan module (see Fig. 1), the heat conduction part stacked onto a circuit of the computer system (14 is a CPU module that contains a CPU and fins that must inherently be stacked upon the CPU to function, col 3 lines 8-10); the heat sink module allowing air to be drawn into the air inlet and through the heat conduction part and exhausted from the air outlet; and an air wall (11) between the air inlet of the fan module and air inlet of the heat sink module for isolating airflow from the air inlet of the heat sink module to the air outlet of the fan module, so that heated air

from the air outlet of the fan module is prevented from flowing into the air inlet of the heat sink module (see Fig. 10). Kitlas lacks where the air wall prevents heated air from the air outlet of the heat sink module from flowing into the air inlet of the fan module and where the fan module is stacked onto the heat sink module. Marquis teaches wherein a fan module (60) is stacked onto a heat sink module (16) with an air wall isolating airflow from the air outlet of the heat sink module to the air inlet of the fan module (see Fig. 13). It would have been obvious to a person of ordinary skill in the art to combine the duct CPU cooling system of Marquis with the shroud attachment CPU cooling system of Kitlas for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

3. With respect to claim 2, Kitlas teaches wherein the air wall (11) further comprises an approach (52); one end of the approach connecting to the air inlet of the fan module (12) while another end connects to the air outlet (17) of the heat sink module (14, see Fig. 1, 2). Kitlas lacks where the approach is connecting the air outlet of the fan module to the air inlet of the heat sink module. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person of ordinary skill in the art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

4. With respect to claim 3, Kitlas teaches wherein the computer system and the cooling module (10) are disposed within a case (24, see Fig. 1).
5. With respect to claim 4, Kitlas teaches a brace (13) in the case; the air wall (11) being fixed to the brace (see Fig. 2).
6. With respect to claim 5, Kitlas teaches wherein a support device (18) of the computer system is capable of being fixed to the brace (via 20, 22, see col 3, lines 66-67 and col 4 lines 1-2).
7. With respect to claim 6, Kitlas teaches wherein the air wall (11) comprises at least one connection end while the brace (13) comprises a corresponding connection end; the connection end of the air wall capable of plugging into the connection end of the brace (see Fig. 4).
8. With respect to claim 7, Kitlas teaches wherein the air wall divides the case into a first room and a second room (see Fig. 10, the area contained by 14 and 11 make up the first room, and the remaining area contained in the case 24 is the second room), so that the fan module (12) draws air into the first room, and the heat sink module (14) exhausts air from the second room. Kitlas lacks where the heat sink module exhausts air into the second room. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person of ordinary skill in the art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction

part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

9. With respect to claim 8, Kitlas teaches a second fan module (90) in the case (24) for drawing air provided into the second room from outside the case. Kitlas lacks where the second fan module exhausts air outside of the case. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person or ordinary skill in the art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

10. With respect to claim 9, Kitlas teaches wherein the heat conduction part is connected to a central processing unit of the computer system (see col 3, lines 8-10).

11. With respect to claim 10, Kitlas teaches a case (24); a circuit for controlling operations of the computer system (CPU circuit is inside 14 see col 3, lines 8-10); and a cooling module (10) in the case comprising: a fan module (12) with an air inlet and an air outlet, capable of drawing air into the air inlet and exhausting air from the air outlet (see Fig. 10); a heat sink module (14) with an air inlet (15), an air outlet (17), and a heat conduction part (col 3, lines 8-10 disclose cooling fins within 16); the heat conduction part being between the air inlet and the air outlet, the air outlet connecting to the air inlet of the fan module, the heat conduction part stacked onto a circuit of the computer system (14 is a CPU module that contains a CPU and fins that must inherently be

stacked upon the CPU to function, col 3 lines 8-10); air is drawn into the air inlet of the heat sink module and through the heat conduction part and exhausted from the air outlet; and an air wall (11) between the air inlet of the fan module and the air inlet of the heat sink module for isolating air flow from the air inlet of the heat sink module to the air outlet of the fan module, so that heated air from the air outlet of the fan module is prevented from flowing into the air inlet of the heat sink module. Kitlas lacks where air from the outlet of the heat sink module is prevented from flowing into the air inlet of the fan module and where the fan module is stacked onto the heat sink module. Marquis teaches wherein a fan module (60) is stacked onto a heat sink module (16) with an air wall isolating airflow from the air outlet of the heat sink module to the air inlet of the fan module (see Fig. 13). It would have been obvious to a person of ordinary skill in the art to combine the duct CPU cooling system of Marquis with the shroud attachment CPU cooling system of Kitlas for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

12. With respect to claim 11, Kitlas teaches wherein the air wall (11) further comprises an approach (52); one end of the approach connecting to the air inlet of the fan module while another end connects to the air outlet of the heat sink module (see Fig. 1, 2). Kitlas lacks where the approach connects the air outlet of the fan module to the air inlet of the heat sink module. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person of ordinary skill in the

art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

13. With respect to claim 12, Kitlas teaches a brace (13) in the case (24); the air wall (11) being fixed to the brace (see Fig. 1-4).

14. With respect to claim 13, Kitlas teaches a support device (18) fixed to the brace (13) for supporting operations of the computer system.

15. With respect to claim 14, Kitlas teaches wherein the air wall (11) comprises at least one connection end while the brace (13) comprises a corresponding connection end; the connection end of the air wall capable of plugging into the connection end of the brace (see Fig. 4).

16. With respect to claim 15, Kitlas teaches wherein the air wall (11) divides the case into a first room and a second room (see Fig. 10, the area contained by 14 and 11 make up the first room, and the remaining area contained in the case 24 is the second room), so that the fan module (12) draws air into the first room, and the heat sink module (14) exhausts air from the second room. Kitlas lacks where the heat sink module exhausts air into the second room. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person of ordinary skill in the art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction

part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

17. With respect to claim 16, Kitlas teaches a second fan module (90) in the case (24) for drawing air provided into the second room from outside the case. Kitlas lacks where the second fan module exhausts air outside of the case. It has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Gazda 104 USPQ 400 (CCPA 1955) It would have been obvious to a person or ordinary skill in the art to reverse the fan module so that air was drawn into the case and into the CPU module at element 17 for the benefit of having fresh cooler air pass through the heat conduction part instead of air already warmed by the other components in the case thereby improving the CPU cooling ability of the device.

18. With respect to claim 17, Kitlas teaches wherein the circuit (circuit inside 14) is a central processing unit of the computer system (see col 3, lines 8-10).

Response to Arguments

19. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lofland et al. (PN 6,130,819) demonstrating the conventionality of stacked fan and heat sink modules used with air walls.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey M. Broussard whose telephone number is 571 272 2799. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2835

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal flourish extending to the right.

**ANATOLY VORTMAN
PRIMARY EXAMINER**